

CLAIMS

What is claimed is:

1. A method for predicting whether an on-line shopper is
 5 converted into becoming a purchaser of an item based on promotions
 offered by an on-line vendor, comprising the steps of:
 storing customer profile information corresponding to a plurality of
 on-line shoppers;
 storing customer log information corresponding to the plurality of on-
 10 line shoppers;
 storing product information corresponding to a plurality of products
 offered for sale by the on-line vendor
 storing promotion attributes corresponding to the plurality of
 products;
 15 constructing a model which simulates shopping behavior as a function
 of the customer profile information, customer log information, product
 information, and promotion attributes;
 generating a percentage chance that the customer purchases a
 particular item based on the model;
 20 displaying the percentage chance.

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2. The method of Claim 1 further comprising the steps of:
 identifying relevant variables;
 selecting a plurality of relevant variables in constructing the model.
3. The method of Claim 2 further comprising the step of
 estimating a parameter for use in constructing the model.

4. The method of Claim 1, wherein the model comprises a logistic regression model.

5. The method of Claim 4, wherein the logistic regression model comprises:

$$P(Buy = 1 | Select = 1) = \frac{\exp(\beta' X)}{1 + \exp(\beta' X)}.$$

6. The method of Claim 4, wherein the model is partially based on traditional logistical regression theory and partially on the maximum utility theory.

7. The method of Claim 1, wherein customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code.

8. The method of Claim 1, wherein the customer log information includes contains data regarding when the customer accessed the web site, how long the customer visited the web site, which items were of interest, how the customer heard about the web site, whether the customer saw the promotion, whether the customer was motivated to taking action as a result of the promotion, whether the customer inspected an item, whether the customer put the item back, whether the customer bought an item, and the quantity of items purchased.

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9. The method of Claim 1, wherein the promotion attributes include one of sales, upgrades, extended warranties, buy-one-get-one free,

financing packages, free options, rebates, coupons, donations to charities, and free gifts.

10. A computer-readable medium having stored thereon
- 5 instructions for predicting whether an on-line shopper is converted into becoming a purchaser of an item based on promotions offered by an on-line vendor, the instructions comprising the steps of:
- storing customer profile information corresponding to a plurality of on-line shoppers;
 - 10 storing customer log information corresponding to the plurality of on-line shoppers;
 - storing product information corresponding to a plurality of products offered for sale by the on-line vendor
 - storing promotion attributes corresponding to the plurality of
 - 15 products;
 - constructing a model which simulates shopping behavior as a function of the customer profile information, customer log information, product information, and promotion attributes;
 - generating a percentage chance that the customer purchases a
 - 20 particular item based on the model;
 - displaying the percentage chance.

11. The computer-readable medium of Claim 10, wherein the instructions further comprise the steps of:
- 25 identifying relevant variables;
- selecting a plurality of relevant variables in constructing the model.

12. The computer-readable medium of Claim 10, wherein the instructions further comprise the step of estimating a parameter for use in constructing the model.

5 13. The computer-readable medium of Claim 10, wherein the model comprises a logistic regression model.

14. The computer-readable medium of Claim 13, wherein the logistic regression model comprises:

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$$P(\text{Buy} = 1 | \text{Select} = 1) = \frac{\exp(\beta' X)}{1 + \exp(\beta' X)}.$$

15 15. The computer-readable medium of Claim 14, wherein the model is partially based on traditional logistical regression theory and partially on the maximum utility theory.

16 16. The computer-readable medium of Claim 10, wherein customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code.

20 17. The computer-readable medium of Claim 10, wherein the customer log information includes contains data regarding when the customer accessed the web site, how long the customer visited the web site, which items were of interest, how the customer heard about the web site, whether the customer saw the promotion, whether the customer was
25 motivated to taking action as a result of the promotion, whether the customer inspected an item, whether the customer put the item back, whether the customer bought an item, and the quantity of items purchased.

18. The computer-readable medium of Claim 10, wherein the
promotion attributes include one of sales, upgrades, extended warranties,
buy-one-get-one free, financing packages, free options, rebates, coupons,
5 donations to charities, and free gifts.

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